

## EDITORIAL

# Thoughts on good writing and the recent CSIRO Report *Future Dilemmas*

I was curious to find out why many environmental/scientific writers cannot get their ideas across to the general public. So I decided, as a test, to apply the principles of good writing as described in the latest NSW HSC Advanced English exam to both the recently released CSIRO report, titled *Future Dilemmas*, and the responses it evoked in the press.

Question 7 from the 2002 HSC examination paper asked students to assess prescribed texts (in this case speeches), and noted that their answers should “demonstrate [an] understanding of the ideas expressed in the text, evaluate the text’s reception in different contexts, and organize, develop and express ideas using language appropriate to audience, purpose and form”.

Most of us have listened to many talks and speeches, attended seminars and read mountains of relevant items about our deteriorating environment. Some of these may have inspired, angered or impelled us to take action. However, the prerequisites for scientific writing are quite different to that for speech- or article-writing. Scientists are required to present their work methodically, with defined aims, a rigorous method, considerable data sets carefully analysed, and conclusions that fit the results. This writing style will get a scientific paper past the test of independent peer review and a sharp editorial eye into the pages of a scientific journal, but they are not the key elements in an inspiring nature conservation speech or piece of writing.

Let’s look at the recently released CSIRO technical report by Barney Foran and Franz Poldy titled *Future Dilemmas. Options to 2050 for Australia’s population, technology, resources and environment*, which is available as a 61-page summary, “Dilemmas distilled” or as the full 337-page report ([www.cse.csiro.au/futuredilemmas](http://www.cse.csiro.au/futuredilemmas)). The great strength of the *Future Dilemmas* report is the incorporation of population, environment and economic data into a state-of-the-art modelling procedure (Lunney 2003). The report presents three scenarios for the year 2050: one in which present population levels peak at 20 million then fall to 17 million, another in which the population rises to 25 million then stabilises, and the third in which it increases to 32 million in 2050 and then to 50 million in the year 2100. The consequences to Australia of different rates of immigration over the next century are covered in the report, which presents background information relevant to some of the most divisive social issues in Australia today – refugees, immigration and population size. This, no doubt, is why the report was launched by Immigration Minister Philip Ruddock.

Potentially the authors had an opportunity to make a ringing statement to government, the public, and the bureaucrats, about Australia’s future. What did they do? They buried themselves and their work before they began.

Describing the fate of the report, they wrote: “When in 2050, a dusty copy of this report is located in the storage room of a library, the reader may wonder what led the authors to their conclusions”. If they see their ideas turning to dust and their report buried in a storage room they obviously do not think that it is significant enough to become part of the history of the debate. The authors cite Malthus from two centuries ago, yet see themselves as irrelevant long before a similar time span has again elapsed. This is hardly the language of revolutionaries. This apparent despondency has made them, and their report, vulnerable to those who have a more optimistic and positive sense of how humans solve problems.

Worst of all is the language of the report, which is even more alienating and will hardly win praise from either the general public or the scientific community for its clarity of expression or originality of ideas. Scroll through to chapter 7, “Crosscutting issues and conclusions”, under the subheading, “Population and Environmental Quality Dilemmas” for this: “Environmental quality issues are not modelled directly in this analysis because many of the physical processes operate at a finer scale of resolution than the macro-level approach in this study. However the quality considerations are directly linked to the wider physical economy drivers and other dilemmas. ... The water quality and biodiversity quality dilemmas are linked directly to export trade drivers and thereby to the tertiary and quaternary effects of population number”. Such writing deserves to be buried in a musty old storage room for being so opaque and conveying so little meaning in so many words.

Under “Biodiversity Quality”, the text again leads the reader to a mire of concepts where the meaning is buried beneath the jargon: “The inclusion of biodiversity quality as a population dilemma is linked to the tertiary trade effect. Primary population effects due to urban settlement patterns (e.g. linear development along coast lines; habitat fragmentation due to roads) can also simplify habitat structure and potentially reduce the diversity of native plants and animals in an area”. The report’s text as cited above is not easy reading, and you have to rack your brains to think of so many words to use for so little to say in the most obscure and blandest way possible. It is nearly always impossible to extract anything from such writing except the generalization that more people and more exports of natural resources/agricultural products will cause our wildlife to be worse off. One may well ask why scientists and bureaucrats feel obliged to produce a report that is so jargon-ridden and incomprehensible.

Other parts of this chapter, such as the following, are even more bizarre: “All population scenarios will project against a background of significant biodiversity loss over the last two centuries and current attitudes which focus on saving

individual attractive species, rather than habitats in their entirety.” This doesn’t even seem to be a proper sentence, with the second half (from “and current attitudes”) either lacking a conclusion or is an unexcised portion of an earlier version of the report. Again: “Whether the concept of biodiversity is important for the continued existence of humankind, represents a cultural belief that is open to intense speculation, investigation and debate”. The authors seem to be expressing their own opinion rather than a scientific view in their expression of this idea. Since habitats, species (attractive or otherwise) and cultural beliefs were not modelled, this writing seems to be merely speculative and value-laden without a reference point to the work in the report. Is the concept of biodiversity really open to debate and so difficult to understand? I turned to the *Biodiversity* volume in the *Australia State of the Environment 2001* (Williams *et al.* 2001), and found this: “The destruction of habitat by human activities remains the major cause of biodiversity loss. ... Many attempts to address these issues have been inadequate or have stalled. ... Failure to reverse these trends will not only guarantee further loss of biodiversity, but also will diminish the quality of life enjoyed by Australians and ultimately undermine the Australian economy”. No ambiguity here. This writing presents a clear contrast with the *Future Dilemmas*.

Let us now turn to the language of the highly conspicuous feature article about the *Future Dilemmas* report that was published in the *Sydney Morning Herald* and sat on about a million breakfast tables one Saturday morning at the beginning of November 2002.

“We’ll be right with 50 million.” This bold, leading front-page headline to Michael Millet’s piece in the SMH of 2-3 November 2002 brilliantly captures the well-worn carefree Aussie expression, “She’ll be right mate” and indicates an endorsement of the proposal to more than double Australia’s present population, a position largely supported by commercial and industrial groups and most politicians. The opening paragraph is arresting: “Australia could cope with an immigration-fuelled population of 50 million by the end of the century, according to revolutionary research commissioned by the Federal Government”. Now look at the language: “could cope”; “by the end of the century”; “revolutionary research”; “Federal government”. The sentence is loaded with devices to lead the reader in a particular direction. For example, “could cope” is not only a phrase of encouragement, but it also suggests that the doubters of this proposition have been proven wrong by “revolutionary research” which has

made a brilliant breakthrough to providing answers to the nagging population questions; the “end of the century” is a long way off, so it is not our problem; “Federal government”, implies an Australia-wide overview and even an international context.

The next most prominent item in this front-page piece is an accompanying table with the heading, “Australia’s Choice”, (Table 1) a phrase which suggests we have options, but when one examines the table, it is obvious that by a concealed effect the choice has already been made for us by the loaded language.

No CSIRO scientist would choose such headings as “the low road, the middle road; the high road”. They smack too much of journalese, or the rhetoric of a political speechwriter. Both the low road and the middle road contain negative words and phrases such as “less pressure on quality” (that is, lost quality), “struggle to maintain growth”, “lethargy” “no incentive”, while the “high road”, which is of course the road most of us like to take (for the view), is presented as “hub for global commerce” (read dollar signs) while the “land and water degradation still a problem” of the middle road has morphed into the somewhat ambivalent phrase “environmental problems in faster trajectory” which looks like putting the gloss on something much worse. In any case, it’s a sell for the high road, for which one needs a high immigration intake. All of which is good ‘yellow journalism’, choosing and using words to influence the reader’s interpretation and understanding of the material in ways at variance to the real meaning of the information presented.

The row headings are: population; environment; economy. If you had a chance at extra rows, what headings would you insert? There may be spiritual, human or ethical dimensions. There might be a line on how the new wealth might be distributed. The choices offered by the table are limited. The placement of the economy on the bottom line is probably not a coincidence with the well-known view that the “bottom line” is the final line for judgment. Now look at the options: low road - “struggle to maintain growth”, middle road - “policy lethargy”, and high road - “hub for global commerce”. Let’s flick back to Michael Millet’s question: “...can we trust politicians to make the right choices?” What a prize piece of rhetoric. What politician, particularly a federal politician, would say “yes” to “struggle to maintain growth” and “no” to “hub for global commerce”.

Millet’s uncritical reporting of two Melbourne economists’

**Table 1** *Australia’s choice. Based on projected immigration scenarios (as it appeared page 1 of SMH 2-3 November 2002).*

	The Low Road	The Middle Road	The High Road
<b>Population</b>	Peaks at 20 million at 2050, down to 17 million at 2100	Stabilizes at 25 million at 2050	32 million at 2050, up to 50 million in 2100
<b>Environment</b>	Less pressure on quality issues, like air, water, land use	Land and water degradation still a problem	Environmental problems in faster trajectory
<b>Economy</b>	Population declines dramatically after 2100, struggle to maintain growth	Policy lethargy – no incentive to switch direction	Sydney becomes a hub for global commerce

view of the Club of Rome's book *The Limits to Growth* (Meadows *et al.* 1972) is intended to tar the CSIRO report with the same brush: "While the Club of Rome was spot on with its projection that the global population would top 6 billion at the turn of the century, its dire warnings of food shortages and resource depletion failed to materialize." Not true, according to the September 2002 *National Geographic*, which contains a lift-out wall chart to accompany its State of the Planet report. One side of the chart is devoted to water, under the heading "The Thirsty Planet". It opens with, "A woman drops a bucket into a dry well in Africa. A Chinese family watches its home vanish beneath a new reservoir. An Australian farmer kicks the salt crust slowly poisoning his field. In all corners of the globe people face trouble with water." If those Melbourne economists who dissented from the CSIRO report do not read such subversive stuff, at least Millet could provide a broader picture. It seems that the HSC English lesson to "demonstrate understanding of the ideas expressed in the text, evaluate the text's reception in different contexts", has been missed by Millet, and/or his sub editor, and by the economists cited by Millet.

Let's have a closer look at the September 2002 edition of *National Geographic* to examine similar ideas in a different publication. The *National Geographic*, with its global reach and sense of the world as a geographic entity, carries a stark heading, "The State of the Planet". In a conspicuous spot on the opening page of the article is the statement, "Each day the global population grows by 219,000 people." Already it is sounding different to "We'll be right with 50 million." Suddenly you get the sense that such choices for Australia are a luxury and that to be able to plan population growth is an option denied to most of the world's nations, which are staggering with a burdensome population expansion.

What did the papers say in response to Michael Millet's spectacular piece? Letters were quick to pour into the SMH, and seven well-crafted examples appeared on Monday, 4 November 2002, under the headline: "Tomorrow is not such a lovely day if population soars". Bearing in mind that SMH readers had not yet had the opportunity to read the report, which was not due to be released until the following Thursday, their first response was: "You do not have to be Einstein to see that the report on a big increase in population is entirely driven by business interests which have the almighty dollar in their impaired sights". By contrast, another writer concluded that: "In short, a small Australia will be left behind and become globally irrelevant without revised immigration". Foran and Poldy would have been squirming at this misinterpretation of their work, with these two letter writers seeing opposite sides of the same coin. One can readily agree with the author of another letter, who wrote: "In the race for the misleading headline of the year, 'We'll be right with 50 million' has to be well out in front".

On Tuesday the barrage continued under the new headline: "Wealthier we will be, in a land of polluted misery". Again, seven letters, containing vivid writing, point to the value differences that Millet's piece has provoked. By Wednesday 6 November 2002, the nine letters were sharp, and appeared a little tougher, under the

different headline: "Dealing with reality will mean unavoidable sacrifices". This line reflected the gist of the first letter, which stated: "We are an isolated country with a small population and economy. Some of our neighbours are heavily populated and potentially hostile. ... A larger population will, of course, place greater demands on our natural resources and some sacrifices are unavoidable. Where there is a will there is a way". By contrast, another letter writer stated that: "As the daughter of a farmer knowing that the Australian soil needed nursing, and the ex-wife of a farmer, I can assure you that Australia cannot sustain a larger population". The final sentence in the final letter concluded: "Only businesses with ecological commitments should be allowed to continue."

By Thursday 7 November 2002, the pendulum of concern had swung against a larger population, as was evident by the six letters collected under the headline: "Wildlife and land ravaged, to feed the not-so-hungry". This reflected the content of the first letter, which opened with: "Now it is crystal clear that 200 years of European farming practices (encouraged through government subsidies) have totally destroyed this continent, some farmers reluctantly admit that some farming land should revert to national parks. No doubt farmers will now sell back to the national parks land which is beyond repair and for which we will be handing over big bucks again". This letter concluded with: "So when Australian farmers tell you that they feed the starving masses of the world, challenge that – they feed the overfed First World". There is no doubt that the values debate is on for everyone, and presumably Foran and Poldy are delighted at the depth of the responses to their report, although they may be shocked at the constructions that have been put on it.

A striking piece by Michael Millet in the SMH on Friday 8 November 2002 showed what a hard week he had endured. His piece appeared under the explicit headline: "All sides come together to argue against a surge in Australia's population". It opened with the clear statement that, "The image of Sydney as a megacity of more than 10 million in a century's time is not proving an appealing one for economists, environmentalists or politicians". The article concluded with the statement that "The report's chief author, Barney Foran, said the 50 million was 'technically feasible', but the resource and environmental challenges were almost insurmountable". Millet had closed his piece cleverly with a quote that was likely to be his own view, and who better to have said it for him than Barney Foran. We might now ask why Barney Foran did not ever say this in his 337-page report or the 61-page distillation. It is clearer than the original, but it does contain a flip-flop expression, namely "almost insurmountable". This could be seen as a challenge. Climbing Everest presented almost insurmountable problems. So what is Barney Foran really saying? One can only presume he is reverting to the intent of his report, which was to inform and not to advise, and certainly not to throw out a challenge, contrary to what happened.

How would you now mark Millet's writing, and the report by Foran and Poldy, using the criteria of "consideration of the structure, language and ideas in the text". Millet, it can be argued, employed sensational journalism, with the

journalist finding himself on a sharp learning curve during the following week. Yet, he turned a potentially dull report into provocative reading, and the letters to the SMH were a great testament to an important debate. One knows that such focused and pungent letter writing would not have been forthcoming from the original CSIRO report or its distilled version.

Just to show what a piece of beautifully clear writing looks like, read Bill Allen's piece, "From the Editor", from the September 2002 edition of *National Geographic*:

"I'm sitting on a forested hillside on the Hawaiian island of Molokai. An arbor of green surrounds me – eucalyptus, ironwood, and Christmasberry. Last night I heard the barking sound of an axis deer. It's paradise."

"Or is it? Nearly all the plants around me are invasive aliens - species humans have brought to Hawaii, where they reproduce nearly unchecked, pushing hundreds of native species towards extinction. Even the deer, imports from India, are a problem. Like the introduced feral pigs and goats, they're tearing up the place. Erosion from hills stripped by grazing has washed away soil. All that runoff has smothered coral reefs."

"So even here, on the world's most remote island group, we've mucked things up. Yes, Hawaii's apparent health is an illusion, but how many visitors know that? If we hope to preserve a small part of the planet's natural wealth, we need more information."

"In January National Geographic introduced the first in a series of articles called hotspots - close-up looks at some of the most species-rich places on Earth. This month you'll find 'State of the Planet,' a checkup on the condition of the environment ten years after the Earth Summit in Rio de Janeiro."

"How well have governments acted upon the recommendations proposed at the summit a decade ago? There have been improvements, but if I were issuing the report card from my deceptively lovely island perch, it would read 'Try harder'."

In 238 words Bill Allen has captured the essence of the biodiversity crisis, evaluated governments and appealed to all readers with clear images of a degraded paradise. He has employed understatement ("mucked things up", "try harder"), spoken personally and softly ("if I were issuing the report card") and made a statement that will speak to readers of both *National Geographic* and the *Australian Zoologist* ("we need more information"). With a couple of quick edits, Allen's fine piece of writing could make a

great speech. It remains as a great editorial, and has fulfilled the HSC requirement to "demonstrate understanding of the ideas expressed in the text, evaluate the text's reception in different contexts, and organize, develop and express ideas using language appropriate to audience, purpose and form."

A text's reception matters, and the language and the ideas of *Future Dilemmas* took a buffeting in the press. It is not conceptually new, and the problems which it models are not new, but there are not many texts that look at the future on this subject in such a numerically brilliant way. The Advanced English exam criteria provide an opportune context in which to evaluate a pivotal piece of work on the options for the future of Australia's landscape and everything that lives upon it. What mark would you give the report, and all the journalists and letter writers who wrote about the report? More importantly, what could scientists do to be clearer in their writing? Could you redraft the report to be clearer, and would you split it up into smaller items to present findings and viewpoints separately? Further, would you have liked to have seen some more details on the impact on biodiversity, rather than being told that was not quite within the modelling framework as set up? There are some important discussions to be had here, particularly as the work will be important for setting population, land use and environment policy in Australia.

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